

FIG. 1A

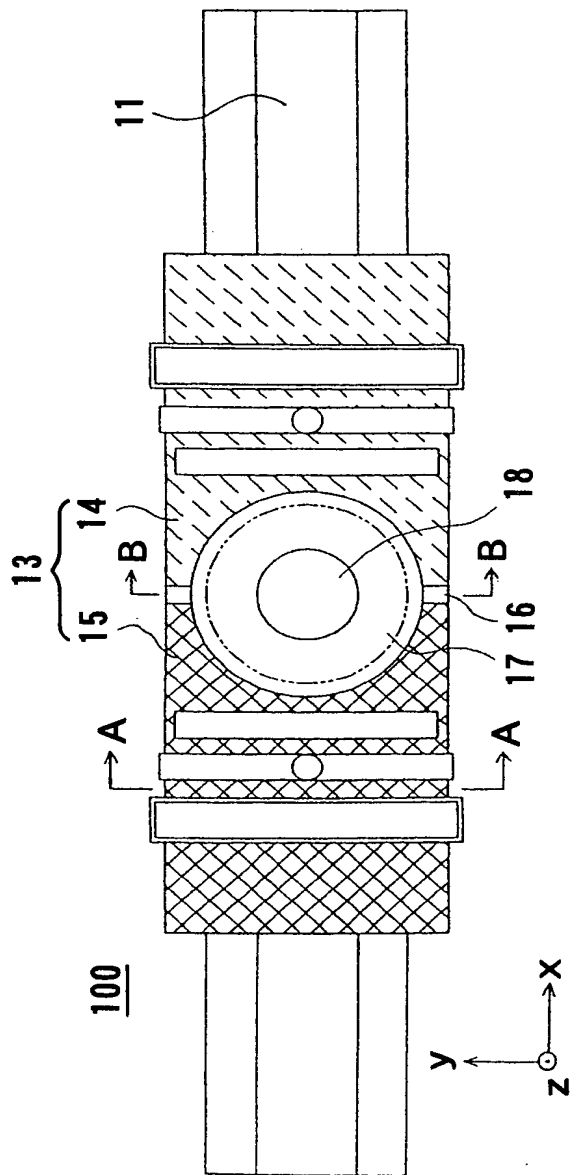


FIG. 1B

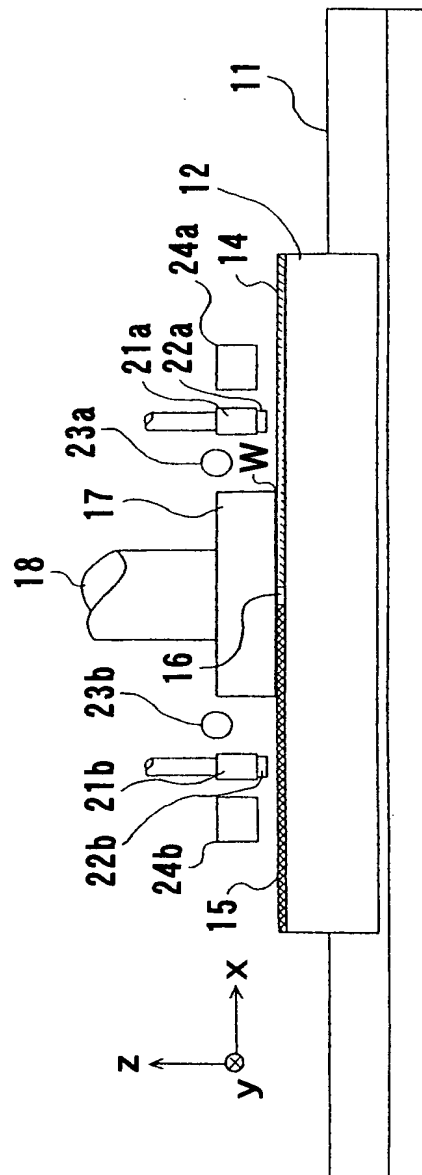
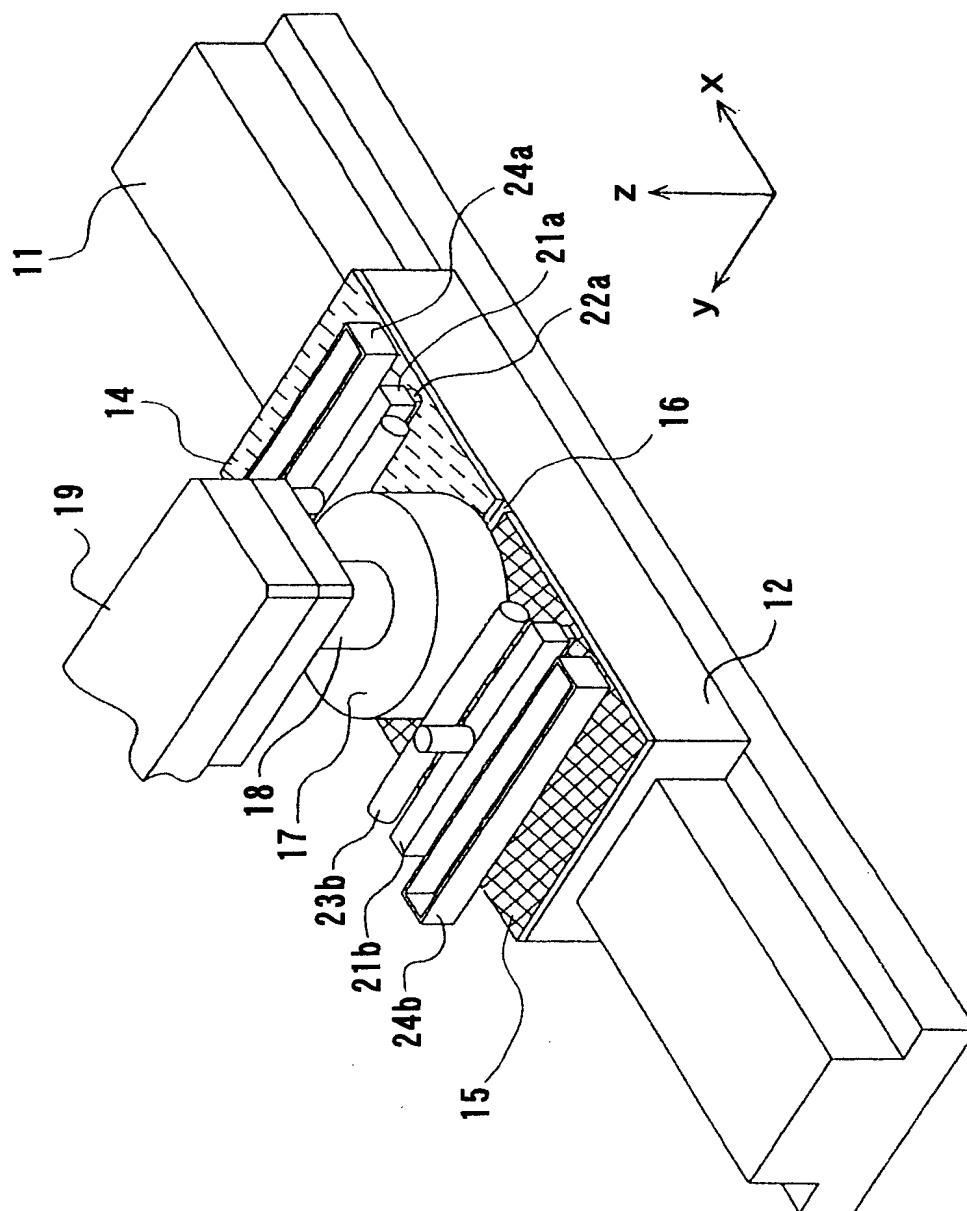
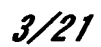


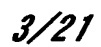
FIG. 2



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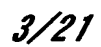


FIG. 4

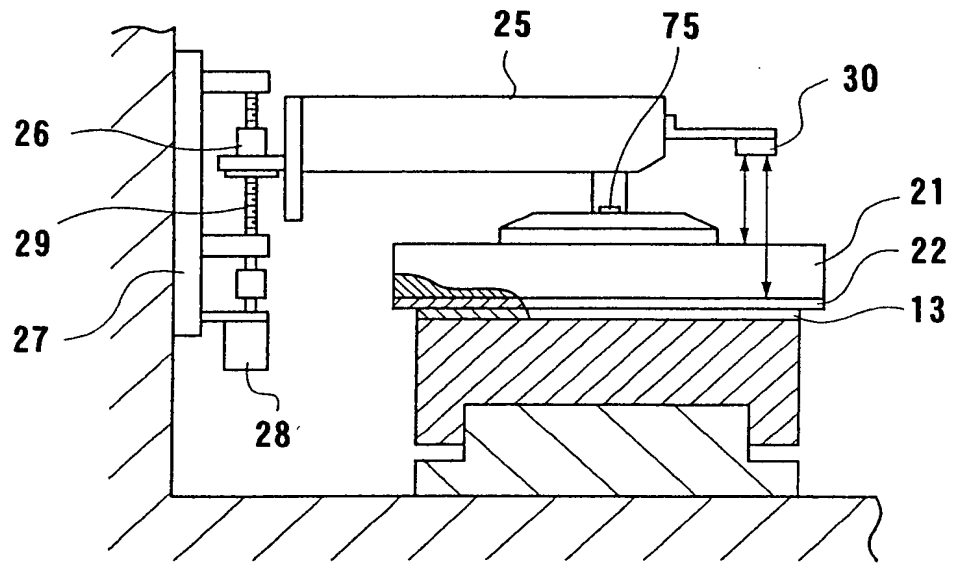


FIG. 5

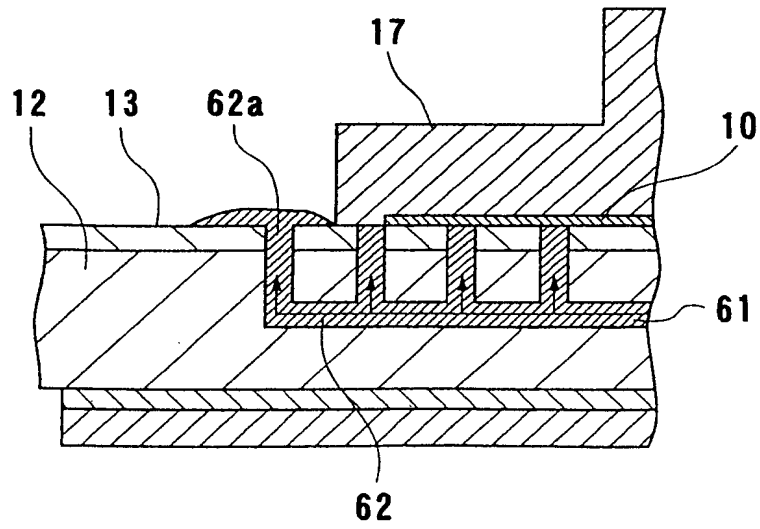


FIG. 6A

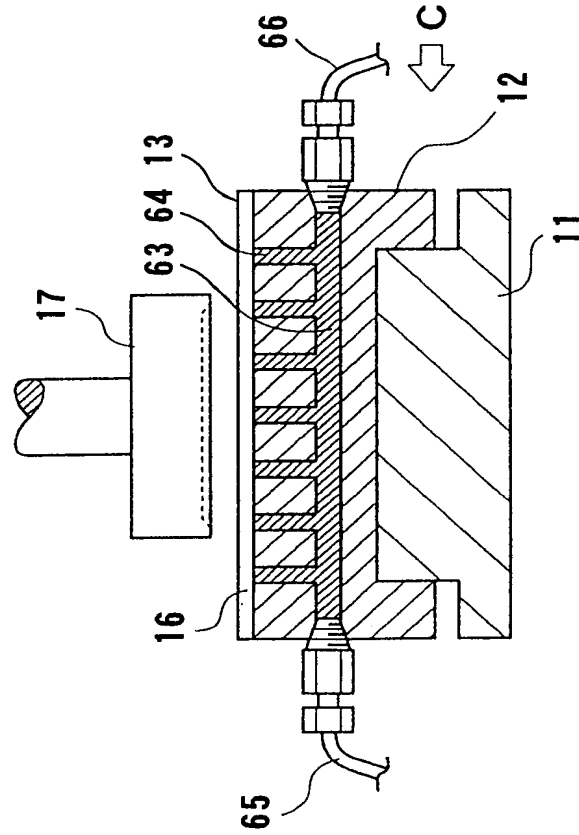


FIG. 6B

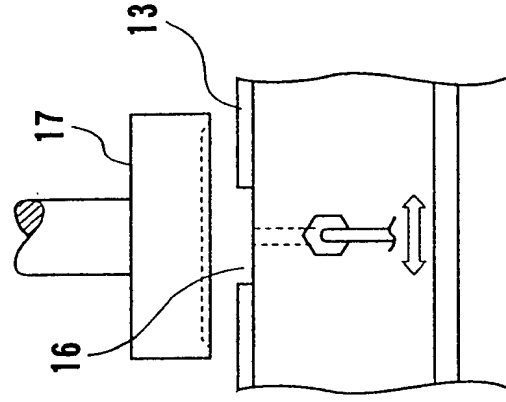


FIG. 8A

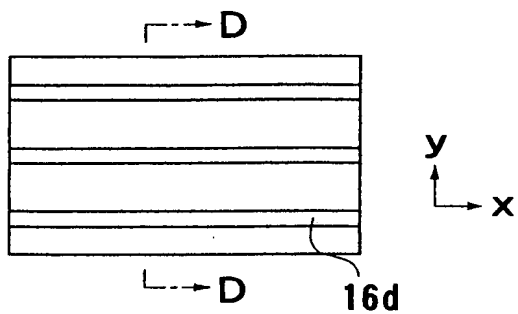


FIG. 8B

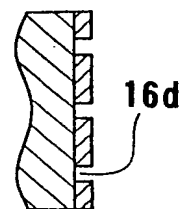


FIG. 9A

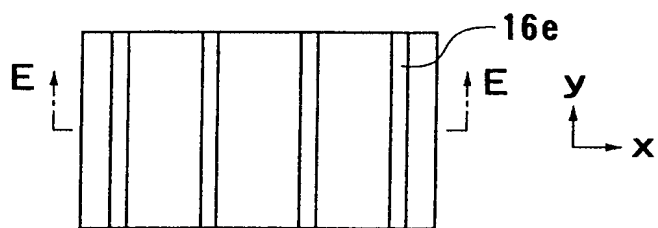


FIG. 9B

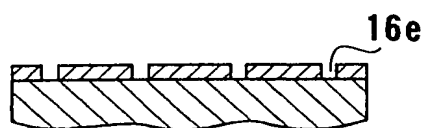
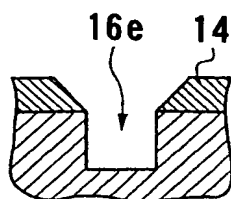


FIG. 9C



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FIG. 11A

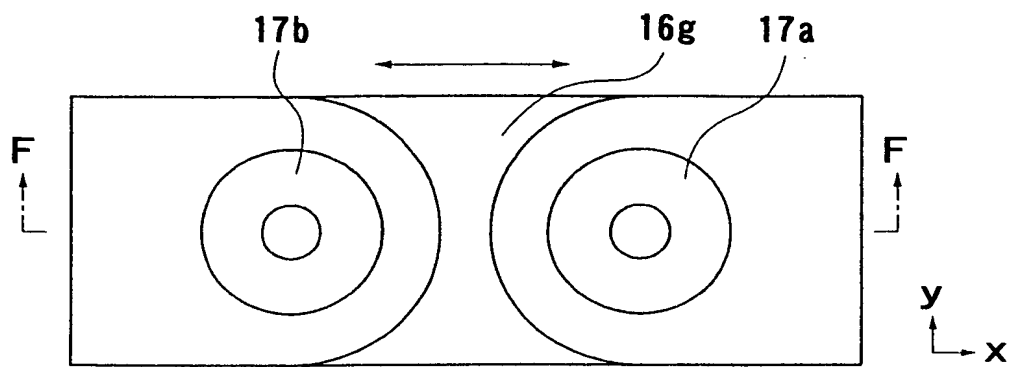


FIG. 11B

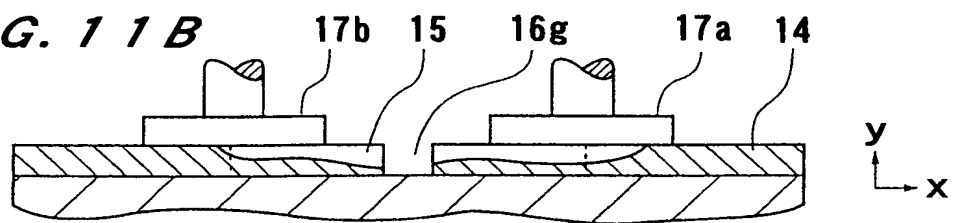


FIG. 11C

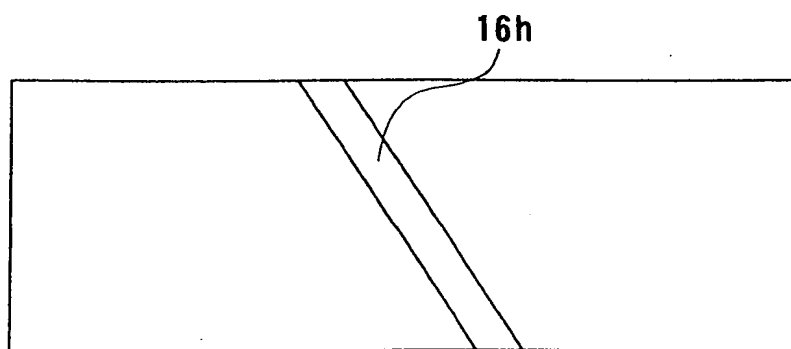
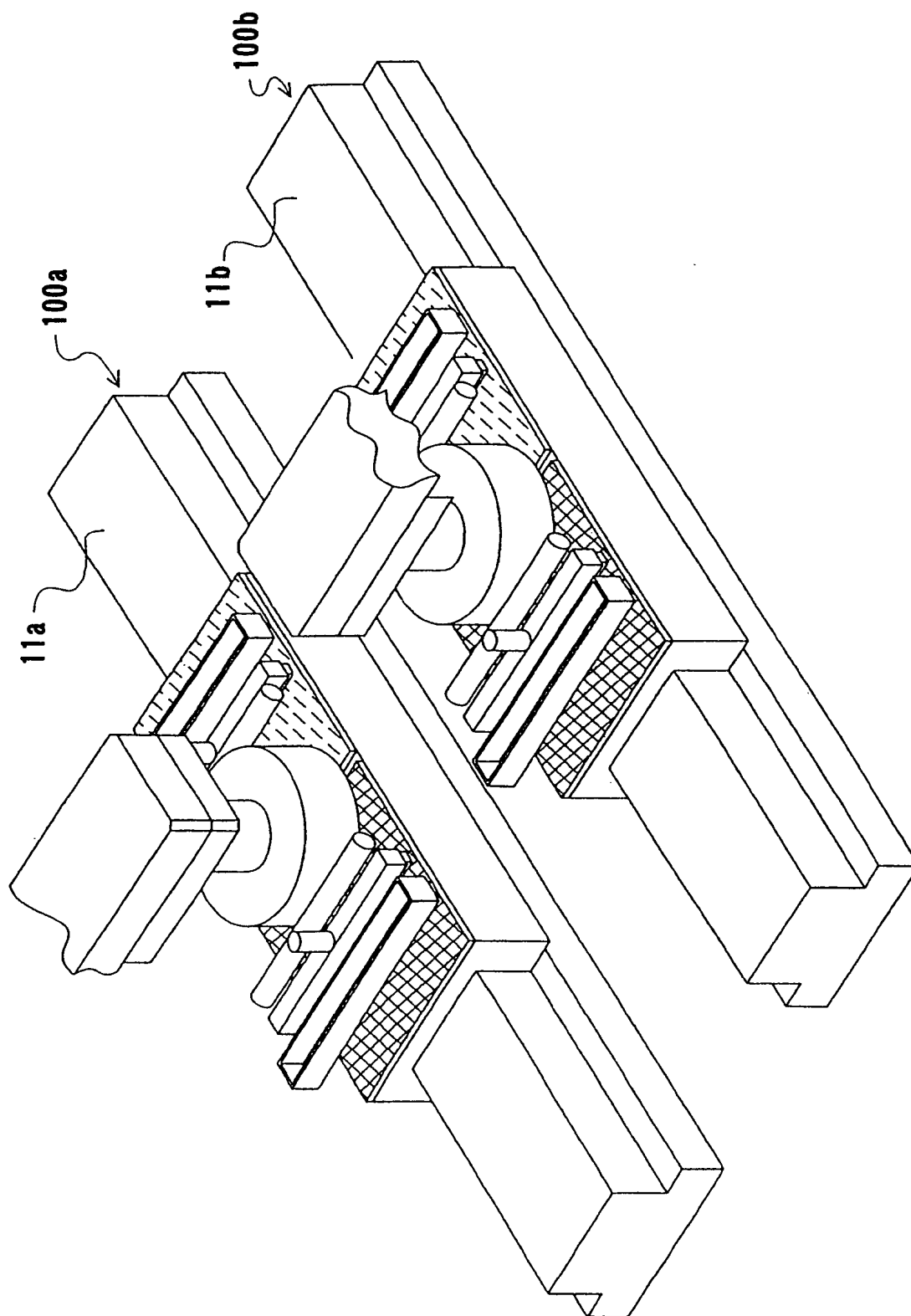


FIG. 12



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FIG. 13

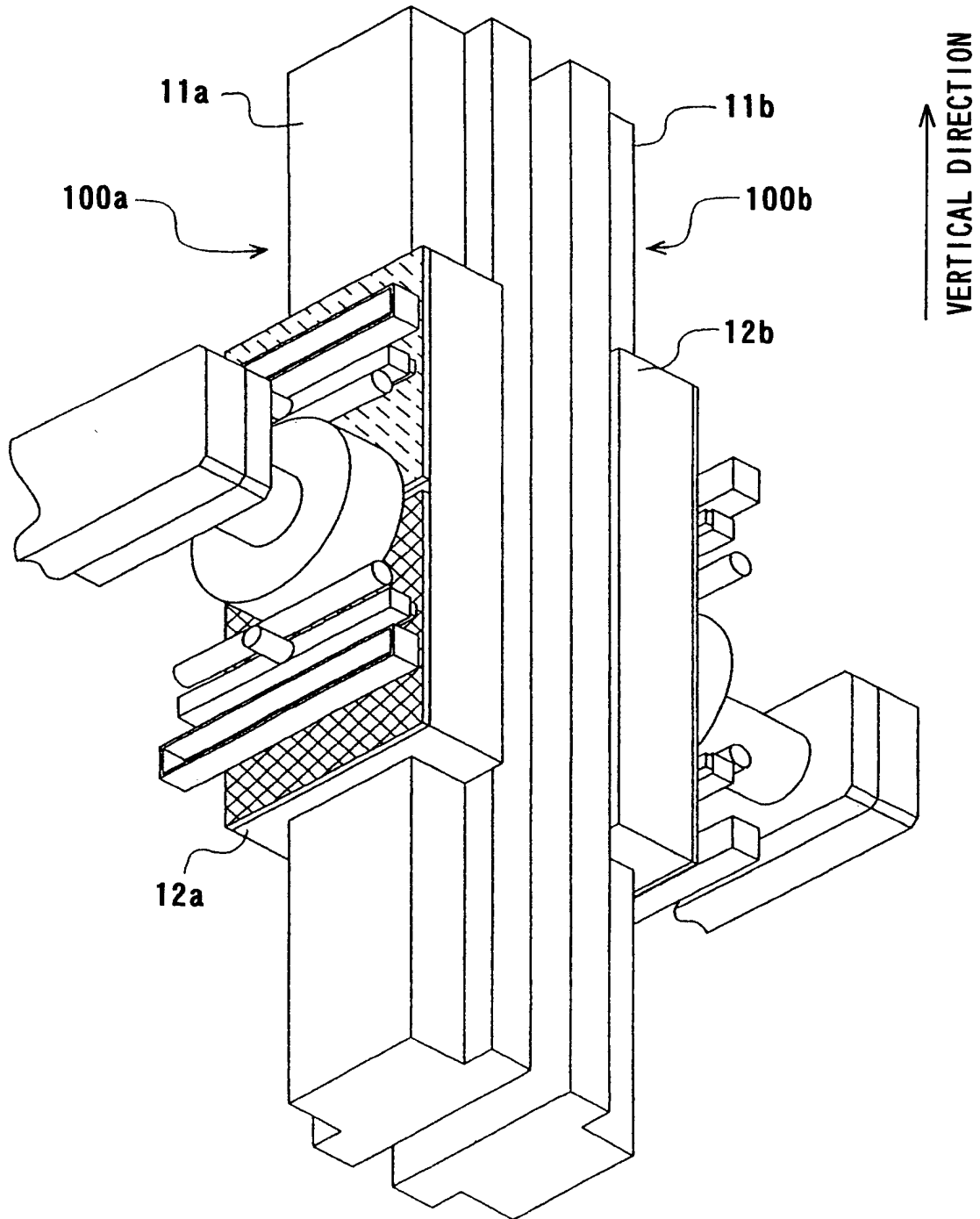
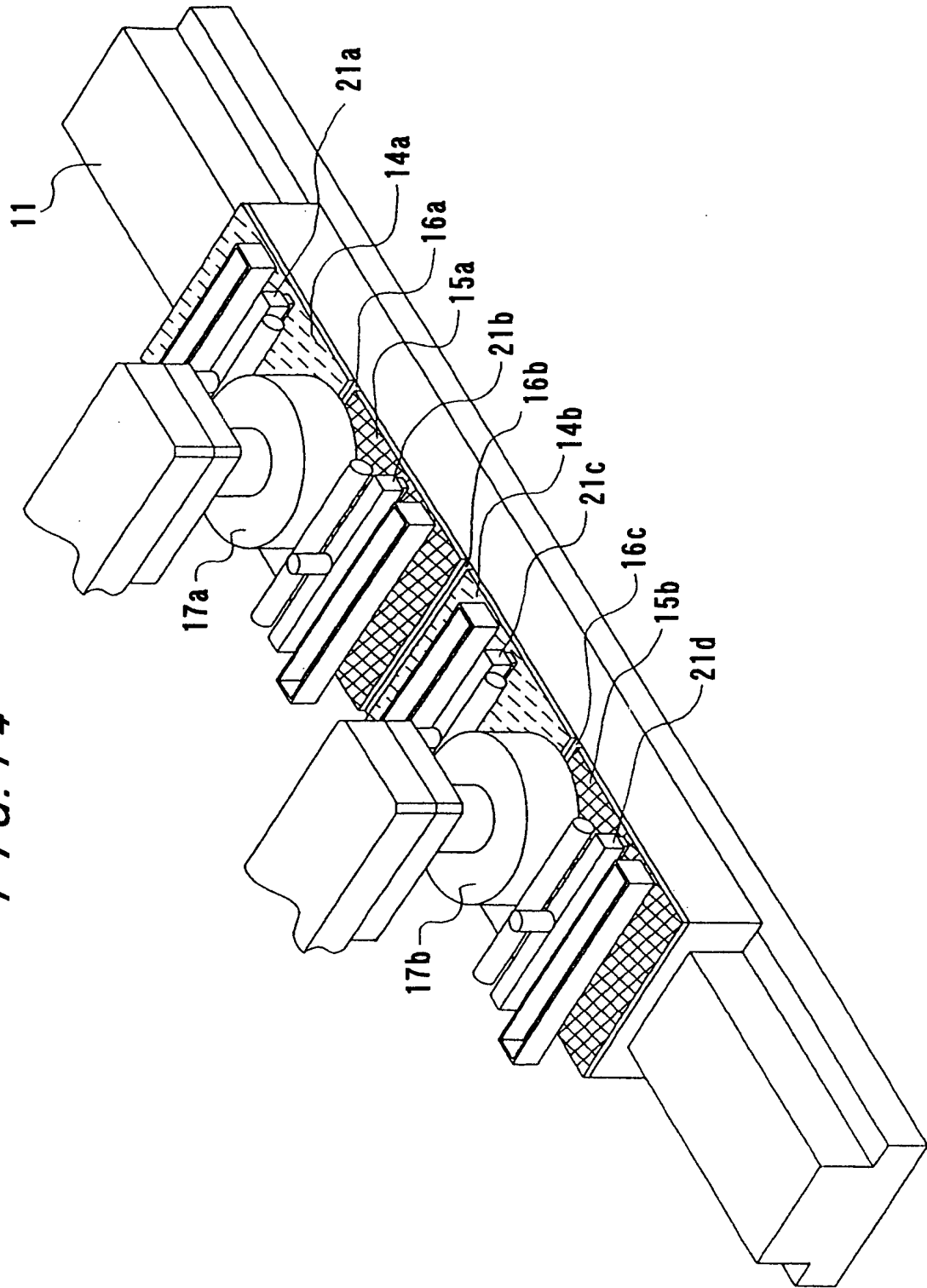


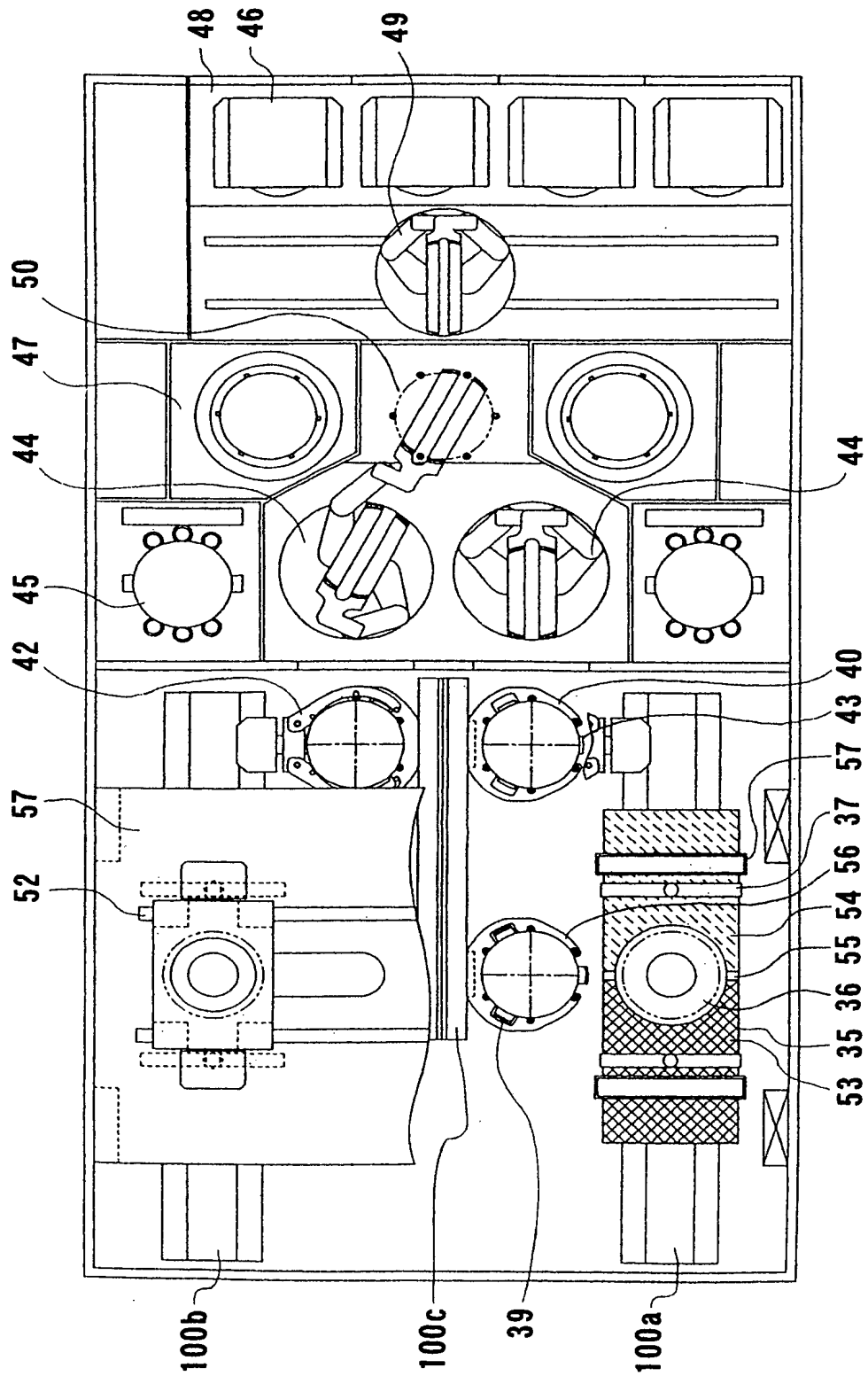
FIG. 13

FIG. 14



A cross-sectional view of a semiconductor device assembly. A central vertical structure 17 is mounted on a substrate 12. A layer 13 is positioned between the substrate 12 and the central structure 17. A layer 82 is located on the top surface of the substrate 12. A layer 81 is located on the bottom surface of the substrate 12. A layer 83 is located on the side surface of the substrate 12. Arrows indicate the direction of light or signal flow from the central structure 17 through the layers 13, 82, and 81.

FIG. 16



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FIG. 17**GENERAL CHARACTERISTICS OF LINEAR MOTORS**

	LIM	LDM	LPM
CONTINUOUS OPERATION	◎	△	○
INTERMITTENT OPERATION	○	◎	◎
SMALL-DISPLACEMENT RECIPROCAL MOVEMENT	△	◎	◎
LARGE-DISPLACEMENT RECIPROCAL MOVEMENT	◎	△	○
POSITIONING PERFORMANCE	○	◎	◎
LARGER PROPULSION	◎	○	○
LOW-SPEED OPERATION	◎	○	◎
HIGH-SPEED OPERATION	◎	○	△
OPEN-LOOP CONTROLLABILITY	○	×	◎
VERTICAL DELIVERY	○	△	○
SIMPLER CARRIAGE STRUCTURE	◎	△	○
SIMPLER CONTROL POWER SUPPLY	○	◎	○
PRICE	○	△	△
ADAPTABILITY	LARGE-OUTPUT, CONTINUOUS TRANSPORT MEDIUM AND HIGH-SPEED TRANSPORT	SMALL-DISPLACEMENT, HIGH-SPEED POSITIONAL CONTROL	LOW-SPEED, HIGH-PROPULSION TRANSPORT INTERMITTENT TRANSPORT POSITIONAL CONTROL

◎ : EXCELLENT ○ : GOOD △ : PROBLEMATIC × : DIFFICULT

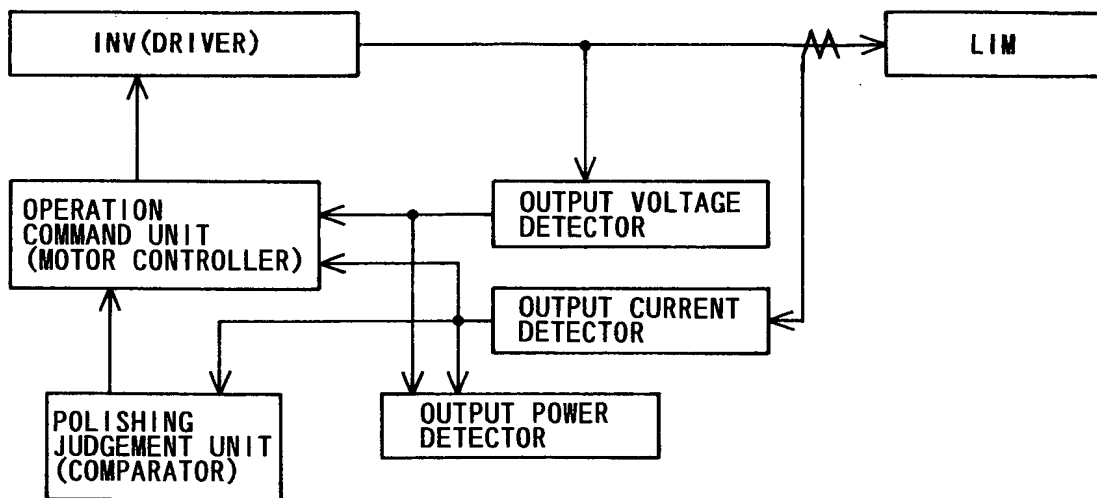
LIM : INDUCTION MOTOR

LDM : DC MOTOR

LMP : PULSE MOTOR

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FIG. 18



CONSTANT OUTPUT FREQUENCY CONDITION

	CONSTANT OUTPUT VOLTAGE		VARIABLE OUTPUT VOLTAGE (HIGH EFFICIENCY)	
	LIGHT LOAD	HEAVY LOAD	LIGHT LOAD	HEAVY LOAD
VOLTAGE			SMALL	LARGE
CURRENT	SMALL	LARGE	SMALL	LARGE
POWER	SMALL	LARGE	SMALL	LARGE
POWER FACTOR	Δ	\bigcirc	\bigcirc	\bigcirc

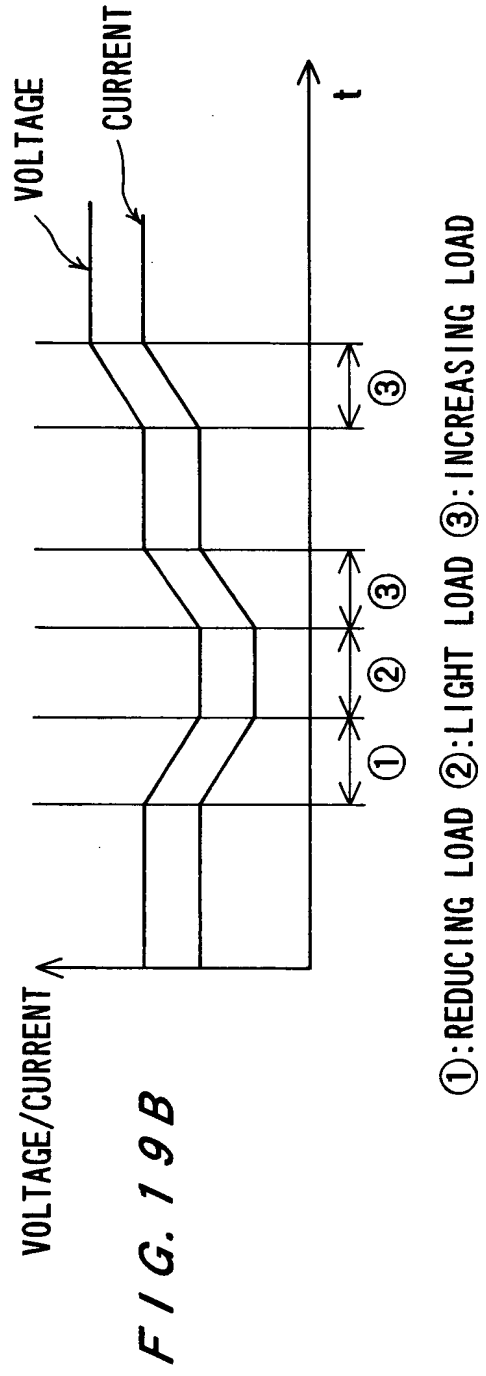
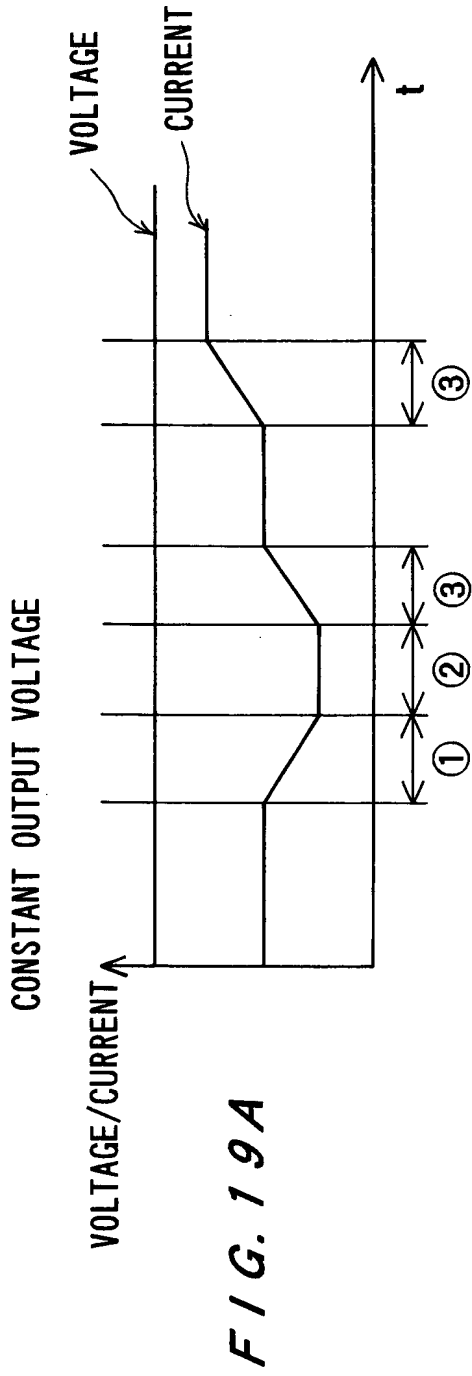
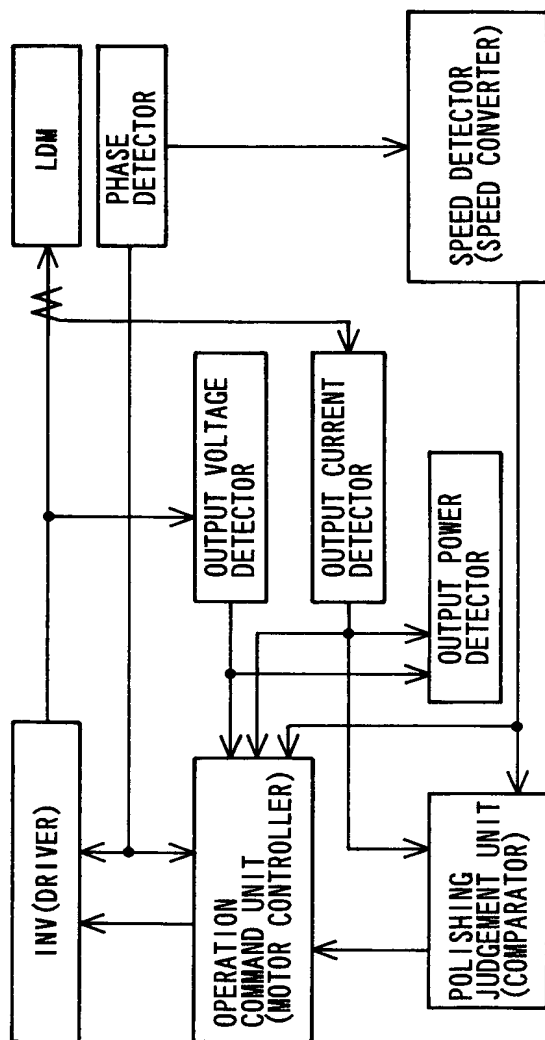


FIG. 20



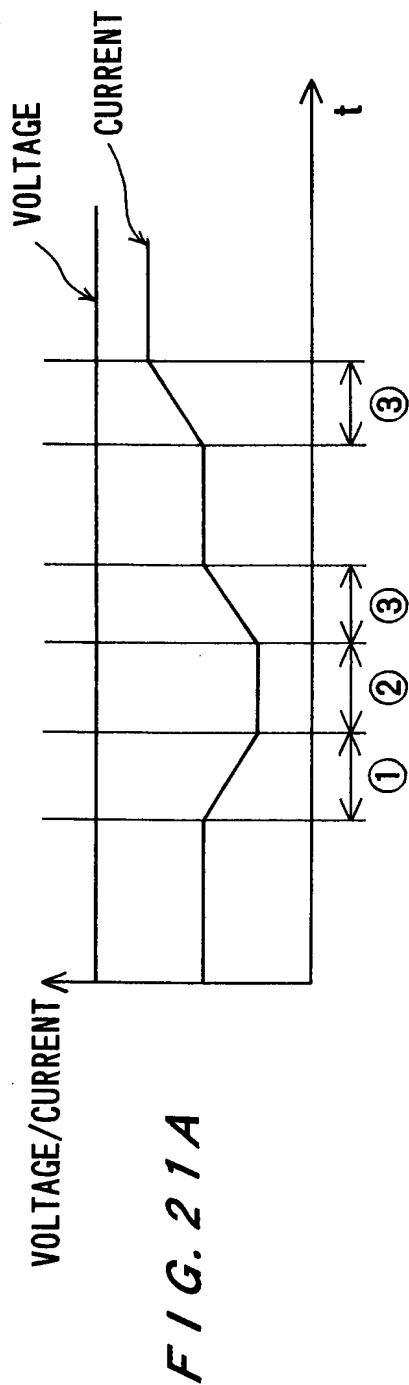
CONSTANT SPEED CONDITION
CONSTANT OUTPUT VOLTAGE

	LIGHT LOAD	HEAVY LOAD
VOLTAGE		
CURRENT	SMALL	LARGE
POWER	SMALL	LARGE
POWER FACTOR	△	○

VARIABLE SPEED CONDITION
CONSTANT OUTPUT CURRENT

	LIGHT LOAD	HEAVY LOAD
SPEED	HIGH	LOW

CONSTANT OUTPUT VOLTAGE (SPEED)



CONSTANT OUTPUT CURRENT

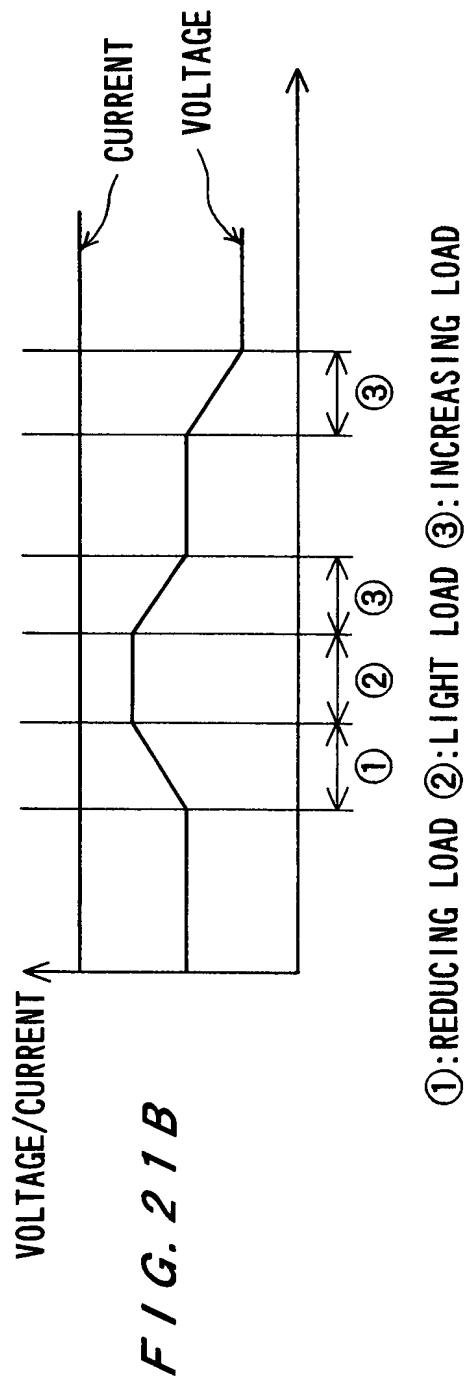


FIG. 22

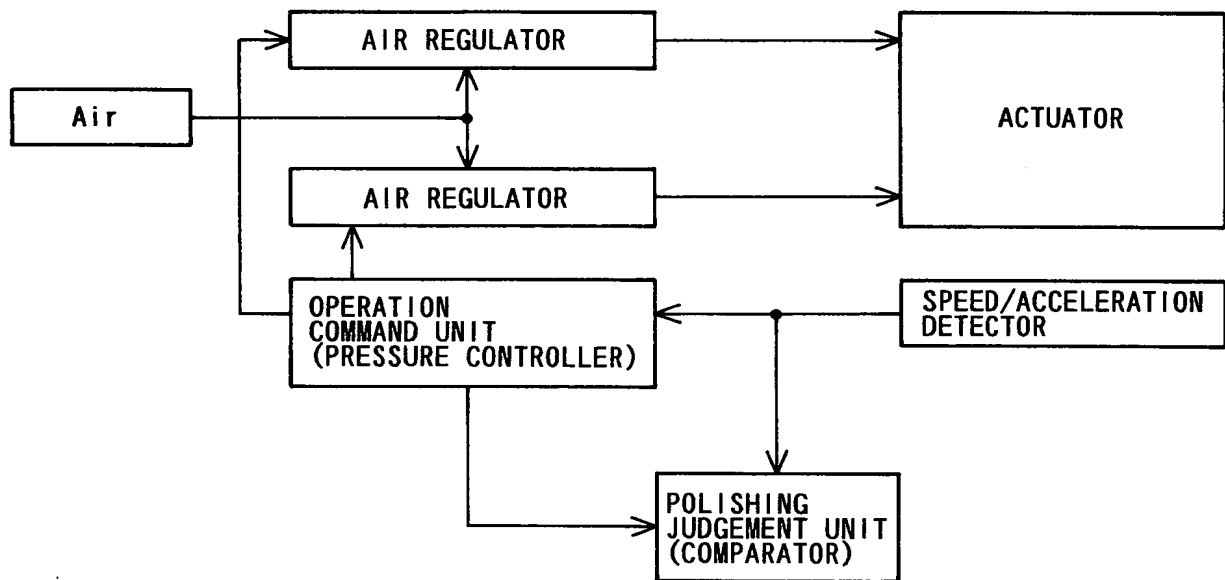


FIG. 23

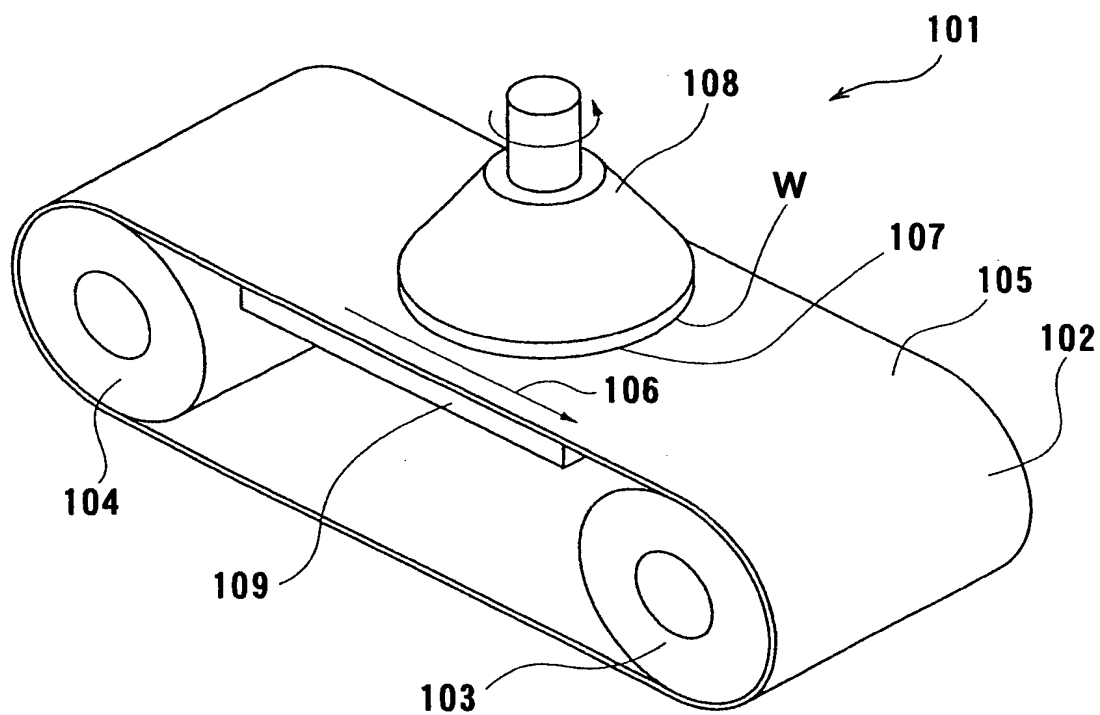


FIG. 23: 101, 102, 103, 104, 105, 106, 107, 108, 109